

### **REMARKS**

Pursuant to the present amendment, claims 18-24 have been canceled and new claims 25-34 have been added. Thus, claims 1-17 and 25-34 are pending in the present application. No new matter has been introduced by way of the present amendment. Reconsideration of the present application is respectfully requested in view of the amendments and arguments set forth herein.

Pursuant to the present amendment, claims 18-24 have been canceled as they are directed to a non-elected invention that was the subject of a previous restriction requirement. Applicants specifically reserve the right to pursue the subject matter defined by the canceled claims in a later filed application should they so desire.

In the Office Action, claims 3-5 and 13-14 were indicated to be allowable if rewritten in independent form. Office Action, pp. 5-6. Pursuant to the present amendment, new independent claims 25, 29 and 32 have been added to further define Applicants' invention. New independent claim 25 contains limitations from allowable dependent claims 3, 4 and 5. New independent claim 29 contains limitations from allowable dependent claims 3, 4 and 13. New independent claim 32 contains limitations from allowable dependent claims 3, 4 and 14. Thus, it is believed that new claims 25-34 are in condition for immediate allowance.

In the Office Action, claims 1-2, 6-10 and 15 were rejected under 35 U.S.C. § 102 as allegedly being anticipated by Choi (U.S. Patent No. 5,629,258). Claims 11 and 12 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Choi in view of Lou (U.S. Patent No. 5,872,045). Claims 16-17 were rejected under 35 U.S.C. § 103 as allegedly being

unpatentable over Choi in view of Brown (U.S. Patent No. 6,498,372). Applicants respectfully traverse the Examiner's rejections.

As the Examiner well knows, an anticipating reference by definition must disclose every limitation of the rejected claim in the same relationship to one another as set forth in the claim. *In re Bond*, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). To the extent the Examiner relies on principles of inherency in making the anticipation rejections in the Office Action, inherency requires that the asserted proposition necessarily flow from the disclosure. *In re Oelrich*, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981); *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1463-64 (Bd. Pat. App. & Int. 1990); *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Int. 1987); *In re King*, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986). It is not enough that a reference could have, should have, or would have been used as the claimed invention. "The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Oelrich*, at 326, quoting *Hansgirk v. Kemmer*, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939); *In re Rijckaert*, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993), quoting *Oelrich*, at 326; see also *Skinner*, at 1789. "Inherency ... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Skinner*, at 1789, citing *Oelrich*. Where anticipation is found through inherency, the Office's burden of establishing *prima facie* anticipation includes the burden of providing "...some evidence or scientific reasoning to establish the reasonableness of the examiner's belief that the functional limitation is an inherent characteristic of the prior art." *Skinner* at 1789.

Moreover, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); M.P.E.P. § 2143.03.

With respect to alleged obviousness, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's

disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991; *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

Applicants respectfully submit that Choi, the Examiner's primary reference, is far afield from the invention set forth in independent claim 1. Among other things, independent claim 1 recites the steps of forming an isolation trench and a contact trench in a substrate, wherein a width of the isolation trench is less than a width of the contact trench, and depositing an insulating material over the isolation trench and the contact trench to substantially fill the isolation trench and reduce an effective width of the contact trench. At no point does Choi disclose or even suggest a methodology that includes at least these limitations.

The Examiner cited Figure 7D of Choi as support for the disclosure of forming an isolation trench and a contact trench wherein the width of the isolation trench is less than the width of the contact trench. Office Action, p. 2. Applicants respectfully disagree for many reasons. First, Choi is directed to a specific method of forming a conductive line that uses a fluorine doped oxide layer as an insulating layer between conductive lines. Abstract. Figure 7D of Choi discloses a plurality of conductive lines 20 positioned above a first insulating layer 12. One of the conductive lines 20 is coupled to a conductive material 26. Col. 5, ll. 25-50. In Choi, the substrate is identified by the reference numeral 10. See, *e.g.*, Col. 5, l. 32. Thus, Choi does not disclose forming any trenches in the substrate 10, much less an isolation trench and a contact trench wherein the width of the isolation trench is less than the width of the contact trench, as recited in claim 1. Choi only discloses forming trenches for conductive lines that are formed above the insulating layer 12.

Additionally, Choi does not disclose or suggest depositing an insulating layer to substantially fill the isolation trench and to reduce an effective width of the contact trench, as recited in claim 1. The undersigned can find no suggestion in Choi to use a deposition process to substantially fill one trench while using the deposited layer to reduce the effective width of a larger trench. There is certainly no suggestion to adopt such a methodology with respect to the formation of an isolation trench and a contact trench formed in a substrate. For at least these reasons, it is respectfully submitted that Choi does not anticipate claims 1-17.

Moreover, it is respectfully submitted that claims 1-17 are not obvious in view of Choi, considered individually or in combination with any other art of record. First, Choi, the Examiner's primary reference, fails to disclose many of the aspects of the invention set forth in claim 1. The citation to Lou and Brown cannot cure the very fundamental deficiencies in Choi. Thus, even if Choi were to be combined with any of the art of record, such a combination would not teach each and every limitation of the claimed invention. Accordingly, any such obviousness rejection would be legally improper.

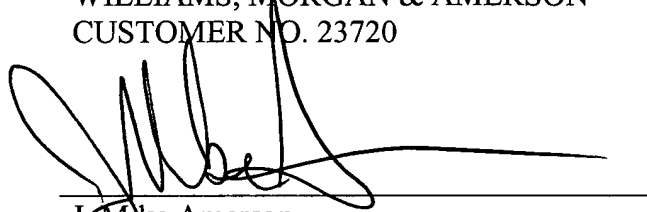
Moreover, there is no suggestion to modify the teachings of Choi so as to arrive at Applicants' invention. Choi is directed to a method of forming conductive lines above a substrate. There is no suggestion that the methodology disclosed in Choi could be adapted as it relates to the formation of isolation trenches and contact trenches in a substrate or to the deposition process, as recited in independent claim 1. A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002).

Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35. It is respectfully submitted that any attempt to assert that the invention defined by independent claim 1 is obvious in view of the prior art of record constitutes an impermissible use of hindsight using Applicants' disclosure as a roadmap.

For at least the aforementioned reasons, it is respectfully submitted that all pending claims are in condition for immediate allowance. The Examiner is invited to contact the undersigned attorney at (713) 934-4055 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'J. Mike Amerson', is written over a horizontal line. The signature is stylized with large loops and a long horizontal stroke extending to the right.

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